Inside Region 3

November 2013

U.S. Fish & Wildlife Service

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Tom Melius • Regional Director
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Midwest Region Welcomes Secretary Jewell

Last week it was my distinct privilege and honor to welcome Secretary of the Interior Sally Jewel to our region for a visit. While here, she was able to see a sampling of some of the many great things we are doing at Minnesota Valley National Wildlife Refuge and the Prairie Wetlands Learning Center and hear about many more things being accomplished across the region.

While in Minnesota, the Secretary announced the Banking On Nature report which highlights the role that our National Wildlife Refuges play as strong economic engines for local communities. The report features 12 refuges in the Midwest Region, including the Upper Mississippi River National Wildlife and Fish Refuge, which recent data show generates $226 million in economic effects for local economies or about $46 for every $1 in budget expenditure.

The Secretary's visit was a great opportunity to discuss with her our landscape level conservation efforts here in the Midwest Region and the stressors that many of our fish and wildlife resources face. You can learn more about Secretary Jewell's visit in this issue on page four.

This month is joyful for a couple of more reasons. The first is Veterans Day, an opportunity to offer our sincere thanks and gratitude to those who have served and defended our country. The Service has many veterans currently working with us, in addition to the many nationwide who have made great sacrifices for our nation. I ask each of you to pause and reflect on these veterans, whose service-before-self attitude we have all benefited from.

This month also brings the opportunity to gather with family and friends and enjoy great food, perhaps a football game or two, and to pause at Thanksgiving to reflect upon the fantastic year this truly has been. The Fish and Wildlife Service has certainly been blessed this year thanks to your hard work and professionalism even in the face of the challenges we have endured.

I will again ask each of you to exercise the good safety sense that has become second nature for us. Stay safe, keep up the great work and have fun.

Enjoy this month's issue of Inside Region 3.

Tom Melius
Regional Director, Midwest Region

On the Cover
Secretary Sally Jewell and Regional Director Tom Melius help Minneapolis second graders collect native prairie seeds during her visit to Minnesota Valley National Wildlife Refuge.
Tina Shaw, USFWS.

Inside Region 3

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In this Issue

Secretary Jewell Announces Banking on Nature Report

Banking on Nature Report Finds Refuges Continue to Be Powerful Economic Engines

By Tina Shaw
External Affairs

America's national wildlife refuges continue to be strong economic engines for local communities across the country, pumping $2.4 billion into the economy and supporting more than 35,000 jobs, according to a new national report released November 5, by U.S. Secretary of the Interior Sally Jewell. The report, released during a visit to the Minnesota Valley National Wildlife Refuge, comes on the heels of the recent major speech that outlined her conservation vision for the country and unveiled an ambitious youth initiative.

"Our National Wildlife Refuge System is the world's greatest network of lands dedicated to wildlife conservation, but it is also a powerful economic engine for local communities across the country, attracting more than 46 million visitors from around the world who support local restaurants, hotels, and other businesses," said Jewell. "In addition to conserving and protecting public lands for future generations, the report shows that every dollar we invest in our Refuge System generates huge economic dividends for our country."

The peer reviewed report by the U.S. Fish and Wildlife Service, *Banking on Nature*, finds refuges contributed an average $4.87 in total economic output for every $1 appropriated in Fiscal Year 2011.

"This study shows that national wildlife refuges repay us in dollars and cents even as they enrich our lives by protecting America's natural heritage and providing great recreation," said FWS Director Dan Ashe. "That's inspiring and important news, especially as our economy continues to gain strength."

The National Wildlife Refuge System is the largest network of lands in the nation set aside for wildlife, with 561 national wildlife refuges – at least one refuge in every state – covering more than 150 million acres.

Wildlife-related recreation fuels much of this economic contribution. The National Survey of Fishing, Hunting and Wildlife-Associated Recreation, which informs the Banking on Nature report and is published every five years by the Service, found that more than 90 million Americans, or 41 percent of the United States' population age 16 and older, pursued wildlife-related outdoor recreation in 2011, and spent nearly $145 billion.

Among other key findings from the Banking on Nature report:

- Spending by refuge visitors generated nearly $343 million in local, county, state and federal tax revenue;
- National wildlife refuges are seen widely as travel-worthy destinations: 77% of refuge spending was done by visitors from outside the local area; and
- The combined economic contribution to communit-ies nationwide is almost five times the $492 million appropriated to the Refuge System in FY 2011.

Minnesota Valley National Wildlife Refuge is located within the urban and suburban areas of Minneapolis and St. Paul. The refuge is a popular destination for visitors from across the region and around the world. Accounting for 82 percent of all refuge visitations, local residents utilize it the most.

This extensive system of protected lands is bordered by urban development and city life. This expanse is comprised of 14 linear units totaling approximately 14,000 acres that spans 99 miles of the Minnesota River.

The focal point of the refuge is the visitor center, which features 8,000 square-feet of exhibit space, a 125-seat auditorium, two multi-purpose classrooms, a bookstore, an art gallery, and an observation deck.

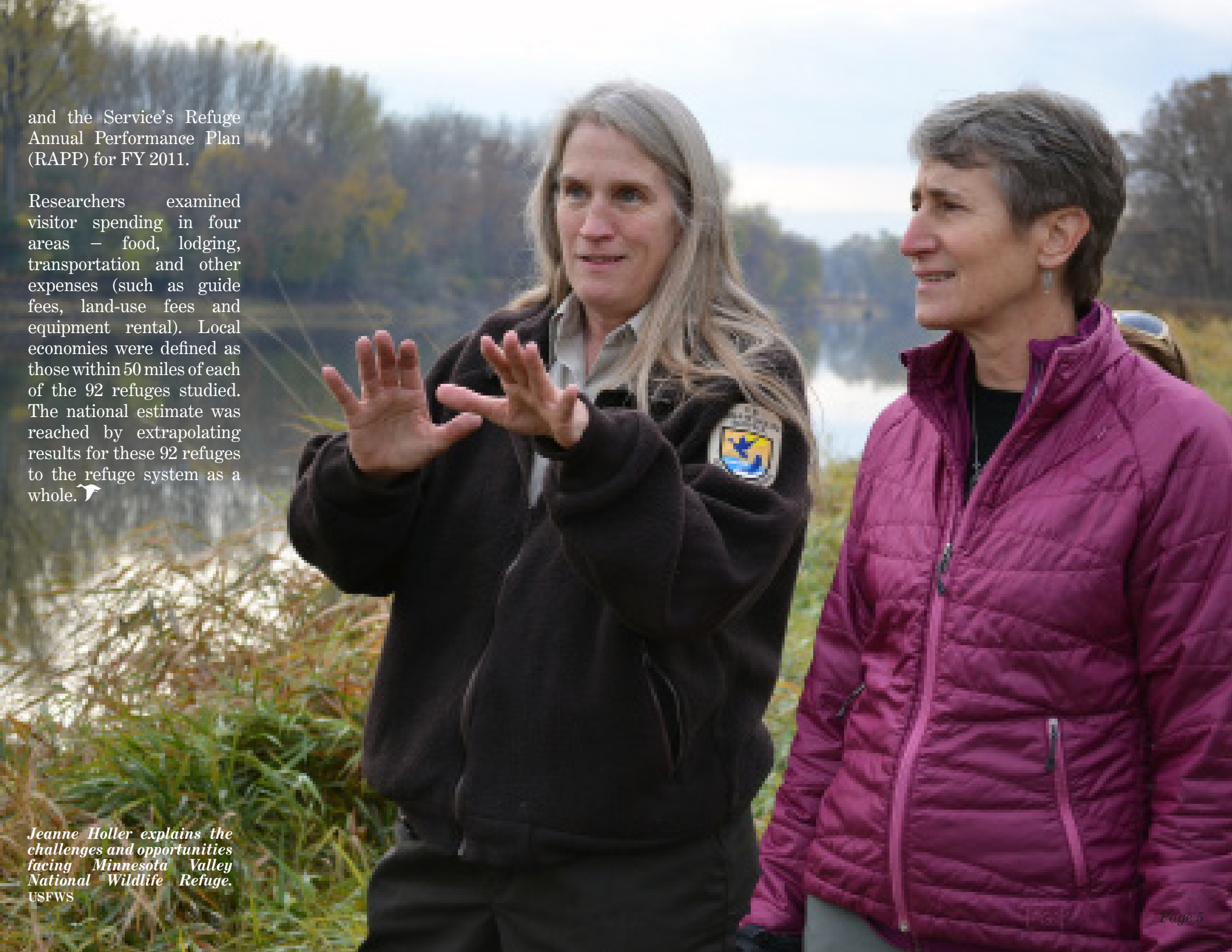
Refuge staff welcome students and their families for environmental education and interpretative programs year-round and the refuge has fostered a robust relationship with local schools throughout the metro.

The national report also features Upper Mississippi River National Wildlife and Fish Refuge, which spans Minnesota, Wisconsin, Iowa and Illinois. This unique refuge is known worldwide as a recreational destination. The most recent data show that recreational visitors generated $226 million in economic effects on a budget of $4.9 million – which is about $46 for every $1 in budget expenditure. The refuge also supports the greatest number of jobs of all sampled refuges at 1,394 jobs.

The *Banking on Nature* report used 92 national wildlife refuges for its economic sampling. Daily per-person spending data were drawn from the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

and the Service's Refuge Annual Performance Plan (RAPP) for FY 2011.

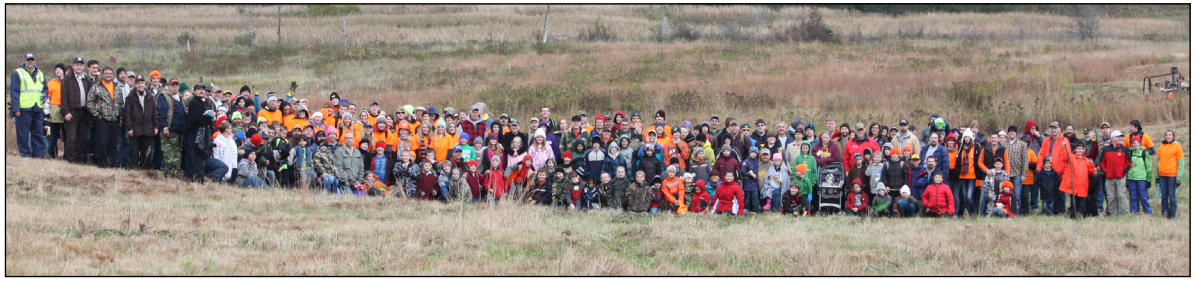
Researchers examined visitor spending in four areas – food, lodging, transportation and other expenses (such as guide fees, land-use fees and equipment rental). Local economies were defined as those within 50 miles of each of the 92 refuges studied. The national estimate was reached by extrapolating results for these 92 refuges to the refuge system as a whole.



Jeanne Holler explains the challenges and opportunities facing Minnesota Valley National Wildlife Refuge.
USFWS

Boy Scouts and Friends of the St. Croix Wetland Management District Recognized for Conservation Work in Wisconsin

By Tom Kerr,
St. Croix Wetland
Management District



357 volunteers gather at the third annual Conservation Day on the WPA, October 19, on Oak Ridge Waterfowl Production Area. USFWS

Wisconsin Congressman Sean Duffy recognized the Boy Scouts of America of the Northern Star Council, Eagle River District, and the Friends of the St. Croix Wetland Management District with Certificates of Special Congressional Recognition for their service to the community on Conservation Day on the WPA, October 19. Awards were presented by the Congressman's Deputy District Director Jesse Garza, during the third annual event at the Oak Ridge Waterfowl Production Area.

In partnership with the U.S. Fish and Wildlife Service, these two groups have been instrumental in making this three-year-old partnership a success. Conservation Day on the WPA is a field day designed to introduce scouts and local community members to issues related to habitat restoration and invasive species management through field based interpretation and hands on programs.

During the first three years of the event, more than 1,300 volunteers have removed invasive plants from 15-acres of oak savanna and prairie on the Oak Ridge Waterfowl Production Area in St. Croix County. This work helps accomplish the St. Croix Wetland Management District's goal to restore the prairie, wetlands and oak savanna historically found in the District.

"These groups are very deserving of the Congressional recognition," St. Croix Wetland Management District Manager Tom Kerr, said.

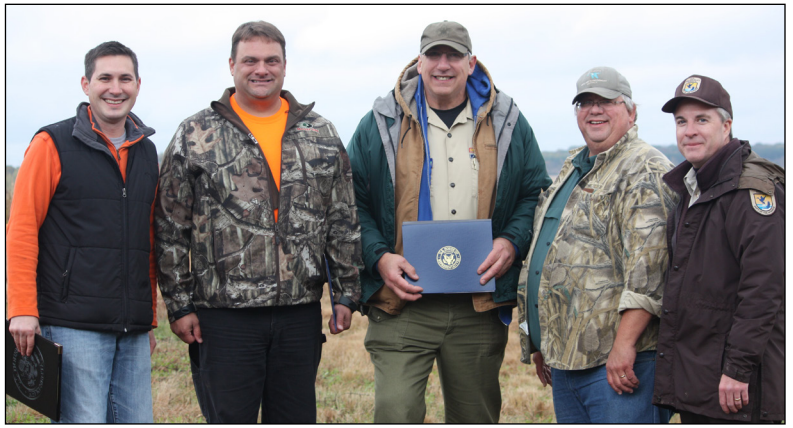
"They helped coordinate this large event, found additional partners and secured community donations to make this event a success. Most importantly, they have encouraged volunteers to help with stewardship of their public lands" said Kerr.

Eagle River District Chair of the Northern Star Council Steve Wojan added that the scouts' willingness to "pay forward' to other generations in a Day of Service is commendable and should be recognized. "We are grateful to the U.S. Fish and Wildlife Service, the Friends of the St. Croix Wetland Management District, the Star Prairie Fish and Game organization and the environmental education students of the University of Wisconsin-Stevens Point and University of Wisconsin-River Falls for their help and assistance in making this Conservation Day on the WPA a success."

The Friends of the St. Croix Wetland Management District were formed just four years ago and, as a community based organization, they have helped promote habitat restoration and education activities in the St. Croix Wetland Management District. President Brian Headlee from the Friends Group accepted the award on behalf of members.

Congressman Duffy's letter to the two organizations stated that, "Volunteers are the heart and soul of this great country and your selfless acts to help fulfill the mission of the St. Croix Wetland Management District are very much appreciated. Your community is a better place because of your hard work."

Learn more about St. Croix Wetland Management District: http://www.fws.gov/refuge/st_croix_wmd/



(From left): Jesse Garza, Deputy District Director for Congressman Sean Duffy, Brain Headlee, President Friends of the St. Croix Wetland Management District, Steve Wojan Eagle River District Chair Northern Star Council, Greg Scheder Eagle River District and Friends of the St. Croix WMD Board and Tom Kerr, District Manager, St. Croix Wetland Management District. USFWS

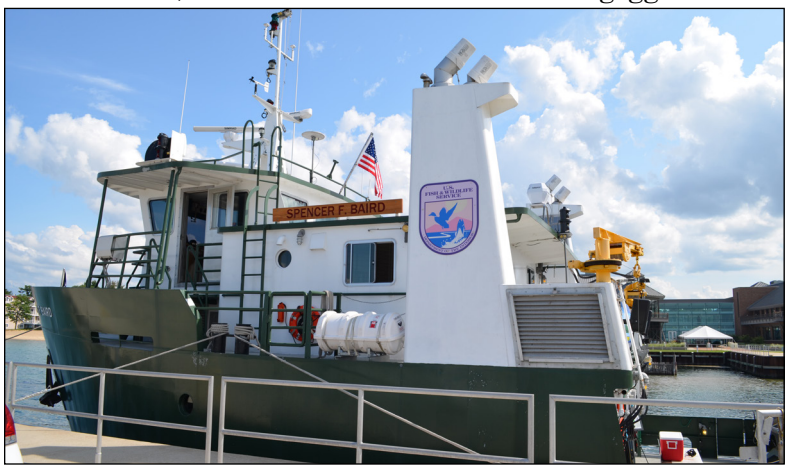
Students Go Overboard for M/V Spencer Baird Safety Training

By Timothy Falconer
Pendills Creek National Fish Hatchery

Crew overboard!

Those haunting words were heard during the training for work aboard the M/V Spencer F. Baird this past summer. Fortunately for everyone involved, that phrase was proclaimed during training simulations of what to do should someone really fall overboard while working aboard the boat.

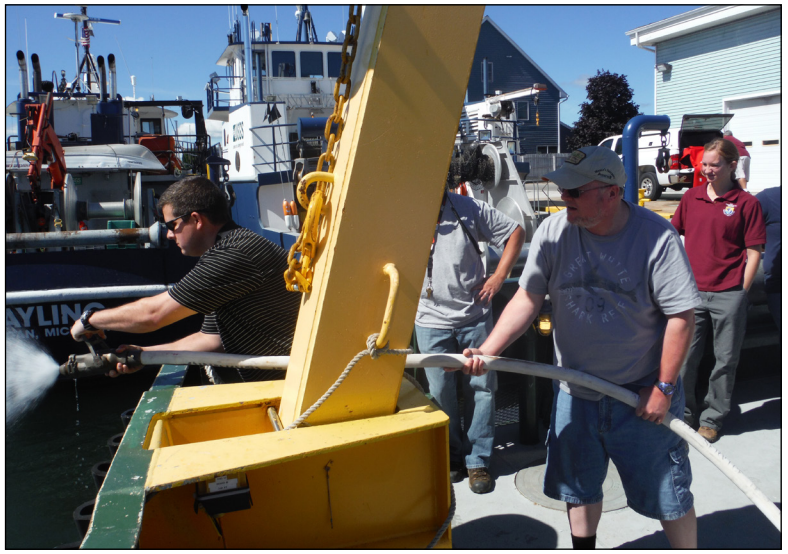
Six students, including myself, from the Fish and Wildlife Service Midwest, took part in a safety course in Cheboygan, Michigan, in order to learn all we could about safely working aboard the M/V Spencer Baird. The M/V Baird is the Service's flagship research and fish stocking vessel in the Great Lakes. The 3-day course covered 19 topics related to safe boat work and emergency measures directly related to this particular vessel, and consisted of classroom and on boat instruction.



The M/V Spencer F. Baird is the U.S. Fish and Wildlife Service's flagship fish stocking and research vessel in the Great Lakes. USFWS

In one exercise, fire alarms were set off to simulate a forced evacuation of the boat due to uncontrolled fire or smoke. The class exercises also included practicing the use of four different escape routes throughout the boat in order to get everyone safely to the muster area.

For one of the exercises, students were fitted with specially designed "foggles," which are goggles with packing tape over the lenses to duplicate low visibility situations. The low visibility exercise was difficult, but nothing compared to the next level of testing - getting out with zero visibility. The participants were given sleep masks, not for naptime, but for totally blocking out any and all visibility. Students then proceeded and responded to the alarms, attempting to exit the boat. Along the route, instructors were shouting certain ways were blocked and it was up to us to remember and navigate to another exit from wherever we were.



A fire on the water? It could happen! Students learn how to suppress a fire using the on-board fire hose. USFWS

Other learning activities included using fire extinguishers or the on-board fire hose to put out fires. We also participated in pool activities demonstrating various methods of water survival and rescue.

One practice maneuver, attempted in the pool, was the technique of presenting as large a target for potential rescuers to see as possible, known as the "carpet technique." This technique is also useful to help relieve an exhausted or injured crewmember by bringing them on top of the "human carpet" created by linking your arms around the legs of the people on either side of you.

For many Service employees, working on the water is an essential part of their job. Hands-on experiential training like this, helps to insure that Service employees can complete their work knowing that, if problems arise, they have the necessary skills to keep themselves and their fellow colleagues safe.

No, these Service employees are not on vacation. They are practicing the "human carpet" technique, which can be used to help an exhausted or injured colleague during a water rescue. USFWS

South Dakota Artist Adam Grimm Wins 2013 Federal Duck Stamp Contest

By Ashley Spratt
External Affairs

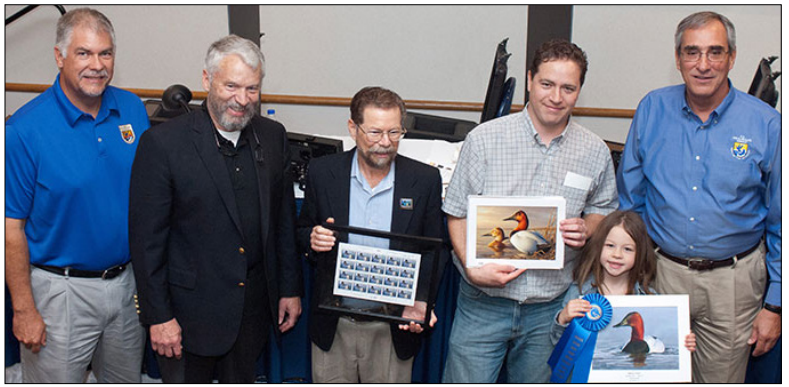
Adam Grimm, an Ohio native who now lives in Burbank, S.D., is the winner of the 2013 Federal Duck Stamp Art Contest. The announcement was made by U.S. Fish and Wildlife Service Deputy Director Rowan Gould at the Maumee Bay State Park and Conference Center in Oregon, Ohio, during the annual art contest – the only juried art competition sponsored by the federal government.

This is Grimm's second Federal Duck Stamp Contest win. His art previously appeared on the 2000-2001 Federal Duck Stamp.

Grimm's oil painting of a canvasback will be made into the 2014-2015 Federal Duck Stamp, which will go on sale in late June 2014. The Service produces the Federal Duck Stamp, which sells for $15 and raises about $25 million each year to provide critical funds to conserve and protect wetland habitats in the National Wildlife Refuge System for the benefit of wildlife and the enjoyment of people.

Hoyt Smith, of Tulsa, Okla., placed second with acrylic painting of a single cinnamon teal. Ron Louque, of Charlottesville, Va., took third place with his acrylic painting of a trio of canvasbacks. Louque previously won the Federal Duck Stamp Contest. His art appeared on the 2003-2004 Federal Duck Stamp.

Of 202 entries in this year's two-day competition, 16 entries made it through to the final round of judging. Eligible species for this year's Federal Duck Stamp Contest were the blue-winged teal, canvasback, cinnamon teal, gadwall and mallard.



(From left) David Scott, USFWS Assistant Regional Director Migratory Birds and State Programs, Rowan Gould, U.S. Fish and Wildlife Service Deputy Director, Bob Steiner, last year's Federal Duck Stamp artist, Adam Grimm, 2013 Federal Duck Stamp Contest winner, Madison Grimm, 2013 Junior Duck Stamp Contest winner, and Tom Melius, Regional Director.

"I congratulate Adam on his Federal Duck Stamp Contest win, and I look forward to seeing this beautiful artwork adorning the 81st Federal Duck Stamp," said Gould. "I appreciate all the artists who entered this year and everyone else who supports the Federal Duck Stamp - one of our nation's most enduring and successful conservation programs."

"For eight decades, hunters, birders and millions of other people who purchase Federal Duck Stamps have made a direct contribution to wildlife conservation through the protection of wetland habitats," said Jerome Ford, the Service's Assistant Director for Migratory Birds. "Our nation's birds and other wildlife – and people, too – thank everyone who 'puts their stamp on conservation' by buying Duck Stamps."

The judges for this year's Federal Duck Stamp Contest were: Douglas Brinkley, a best-selling author of books about U.S. conservation history; John Cornely, a retired Fish and Wildlife Service waterfowl biologist and manager; Mamie Parker, a retired Fish and Wildlife Service regional director; John Ruthven, an Ohio native and wildlife artist whose work appeared on the 1960-61 Federal Duck Stamp; and Charles "Chad" Snee, a philatelist and the associate editor of Linn's Stamp News. The alternate judge was Gloria Erickson, an outdoorswoman, conservationist and rancher from Nebraska.

Waterfowl hunters age 16 and older are required to purchase and carry the current Migratory Bird Conservation and Hunting Stamp – commonly known as the Duck Stamp. Conservationists, stamp collectors and others may also purchase the stamp in support of habitat conservation. A current Duck Stamp can also be used for free admission to any national wildlife refuge open to the public.

Ninety-eight percent of the proceeds from sale of the $15 Federal Duck Stamp go to the Migratory Bird Conservation Fund, which supports the purchase of migratory bird habitat for inclusion into the National Wildlife Refuge System.

You can buy Federal Duck Stamps at many national wildlife refuges, the U.S. Postal Service or online at: http://www.fws.gov/duckstamps/stamps.htm.

Electronic files of the artwork can be downloaded from www.fws.gov/duckstamps.

Recovering Aquatic Life in Missouri

By Trisha Crabill, Bryan Simmons, Shauna Marquardt, and Amy Salveter, Columbia Ecological Services Field Office

To commemorate the 40th anniversary of the Endangered Species Act, the Service is featuring endangered species stories on each of the 50 states throughout the year. More about the Endangered Species Act 40th anniversary and other endangered species conservation articles can be found at http://www.fws.gov/endangered/

With 110,000 miles of rivers and streams, and over 3,000 springs, Missouri is blessed with an abundance of water. Clean and healthy waterways are a critical need that people and wildlife share. Efforts by the U.S. Fish and Wildlife Service and our partners to recover Missouri's endangered aquatic life have the added benefit of improving water quality.

Ozark Hellbenders

Some Ozark Highland streams are home to the federally endangered Ozark hellbender. These large salamanders spend their lives in clear, cool spring-fed streams, under large rocks or in crevices. For reasons that remain unclear, hellbender populations declined dramatically in the 1990s. In Fall 2011, with support from the Service and state fish and wildlife agencies, the St. Louis Zoo successfully fertilized a clutch of eggs—a significant milestone for a captive breeding program that was 10 years in the making.

From these eggs, 165 hellbenders hatched—a huge stride in recovery for the species. In addition to successful captive breeding, scientists have become adept at locating eggs in the wild. The result of both efforts is over 2,400 Ozark hellbenders slated for release back into Ozark streams. Young hellbenders are held in captivity until they reach larger sizes so they stand a better chance for survival when they are released into the wild. With this approach, biologists can stabilize hellbender populations until causes of their declines are addressed.

Neosho mucket

The Neosho mucket is a freshwater mussel that is unique to the upper Arkansas River system. This species is easily distinguished from other similar mussels by the brilliant green rays on its shell.

Like many mussels, Neosho mucket populations have long been dwindling—the result of heavy-metal mining, poor farming practices, impoundments and excessive turbidity. Today, only a single healthy population remains in Missouri, in the Spring River near Joplin. The Service is working with Missouri State University and state fish and wildlife agencies on research and conservation.

Ozark hellbenders are among the fascinating rare species found in Missouri waterways. USFWS

As a result, our knowledge of mussel propagation progressed rapidly and we are now growing mussels in captivity, from their microscopic larval stage up to two inches in length. Biologists plan to laser-engrave a mark on their shells to track them after release into the wild. Using this culture and stocking standard, we can return them to historical habitats and monitor their progress as steps are taken on the landscape to ensure water quality continues to improve.

Grotto Sculpin

The grotto sculpin is a cave-dwelling fish known only in Perry County, Missouri, in five cave systems and two surface streams. The species exists in isolated populations in an area of the state that is characterized by thousands of sinkholes and over 700 caves, known as the karst system. The aquatic habitats this species depends on are especially vulnerable because of the nature of water movement through karst geology. Contaminants and sediment can move rapidly from the surface through sinkholes and degrade underground water sources.

After proposing to list the grotto sculpin as endangered under the Endangered Species Act in September 2012, citizens of Perry County organized to develop the Perry County Community Conservation Plan in cooperation with the Service. The purpose of the plan is to develop and carry out measures to improve water quality to benefit the grotto sculpin, as well as the people who live in Perry County. Fifty-six local

(continued next page)

groups signed the plan, along with other state and federal agencies. Citizens leading the effort believe the greatest benefits will be realized by encouraging and supporting conservation at the grassroots level.

Forty years ago, the Endangered Species Act was passed after highly visible species including the grizzly bear, the black-footed ferret and the Florida panther were nearly lost to extinction. But many animals subsequently listed are less charismatic and not well known—a number of them living out of plain site in rivers and underground cave systems. Their existence highlights the incredible diversity of our natural world, and their conservation often benefits humans as well as other animal species.

For more information on endangered species in the Midwest, go to www.fws.gov/endangered/

The Winged Mapleleaf Mussel's Return to Minnesota and Wisconsin

By Katie Steiger-Meister
External Affairs

Nestled in the gravel beneath the waves of many rivers there live small, endangered species that at first glance appear to be no more than oddly shaped rocks. Silent and unassuming, many freshwater mussels are fighting their way back from the brink of extinction with help from the U.S. Fish and Wildlife Service.

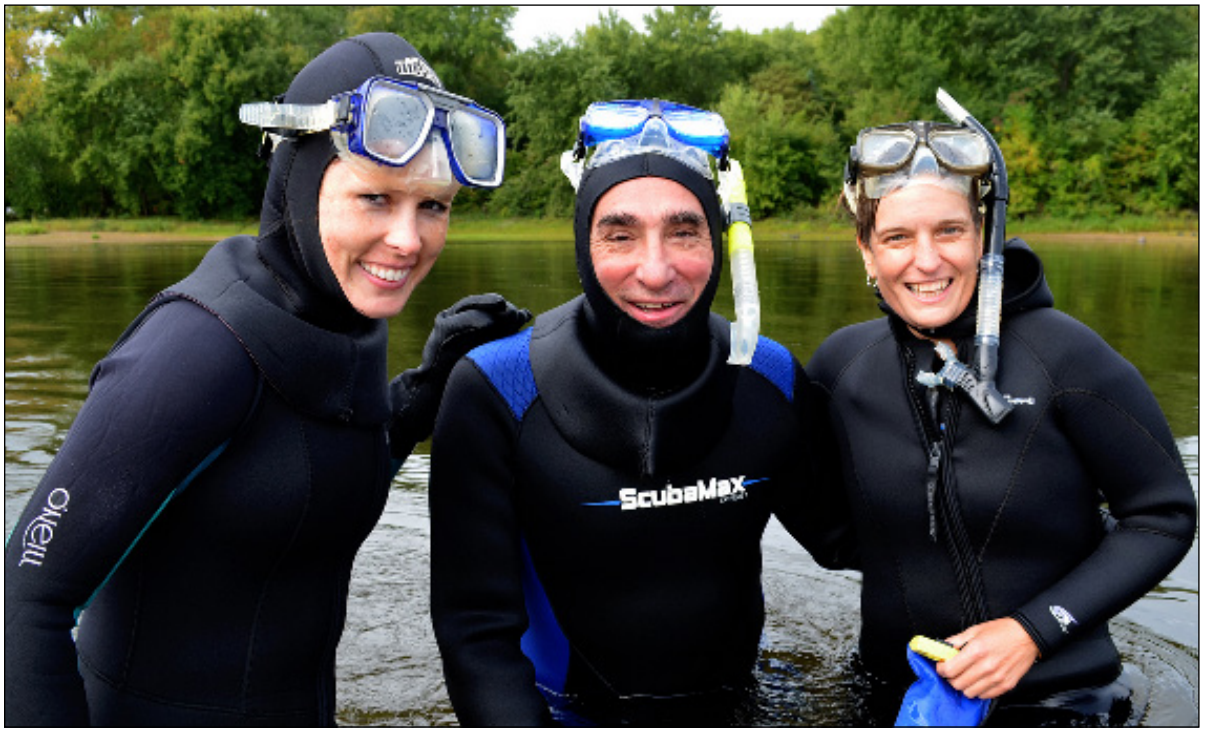
Staff from the Genoa National Fish Hatchery, Wisconsin, and the Twin Cities Ecological Services Field Office, Minnesota,, are working with state and federal partners to restore the winged mapleleaf mussel to the Mississippi River and its tributaries. The winged mapleleaf was once prominent in the many waterways that lead into the Mississippi River. Today, the mussel's existence is threatened by pollution and invasive species.

Complicating the recovery of the species is its unique approach to reproduction. Like most freshwater mussels, the successful reproduction of the winged mapleleaf depends on a host fish. Fertilized winged mapleleaf larva must successfully attach to the gills of a host fish, normally a channel catfish, to grow. Eventually the larva will fall off the host fish into the river bottom, where it will continue its journey to adulthood, if the habitat is suitable where it falls.

Unlike a bear or eagle, a winged mapleleaf can fit in the palm of your hand. How do our Service staff find these small creatures, year after year? Luckily, mussels tend to stay in one place. Divers place mussels along a fixed underwater line at a recorded location. Before mussels are placed along the line, they are marked with an identifying tag. By placing mussels together on a collection of lines located in the St. Croix River, divers can quickly locate winged mapleleaf mussels during their short breeding period.

Throughout late summer and early fall, Service employees check the lines to see if the mussels are reproducing, referred to as brooding. Winged mapleleaf mussels that are brooding are collected and transported to Genoa National Fish Hatchery, where their larva are exposed to host channel catfish. The host catfish are kept at the hatchery until the spring, when they are placed into cages in the wild for the young mussels to detach from their gills.

Reintroduction of the winged mapleleaf to the Mississippi and other rivers will take time, but with the help of the U.S. Fish and Wildlife Service and partners, the little mussel now has a fighting chance.



USFWS

National Fish Passage and Partners for Fish and Wildlife Programs Team Up For Northeastern Michigan Dam Removal

By Joseph Gerbyshak
Alpena National Fish and Wildlife Conservation Office

The Black River, part of the Cheboygan River Watershed, in Michigan, has been the target of many habitat improvement projects in the past decade. The latest project is a dam removal in the headwaters of this premier coldwater fishery.

It has been a long-time goal of resource professionals to remove Saunders Dam, a dilapidated dam on this Blue Ribbon Trout Stream exclusively managed for brook trout. Saunders Dam, named after a former landowner, was built in the early 1900s for power generation but the decaying dam no longer served a purpose and was causing many negative environmental impacts. The obvious solution for resource professionals was dam removal.

Saunders Dam, like most dams, had many harmful effects on the aquatic ecosystem. After only 10 miles of headwater stream, Saunders Dam impounded 12-acres of water with its four feet of head. The dam impounded both the main branch of the Black River and a portion of Saunders Creek, a coldwater tributary. The impoundment increased the amount of water exposed to the sun, increasing stream temperatures by an average of three degrees Fahrenheit. In addition, the impoundment slowed flows, causing the stream to drop its sediment load and blanketing substrate vital to stream health. The dam also created a barrier for aquatic organism passage for many species in the Black River, including native brook trout. The fragmentation of habitat impeded migration to critical spawning and nursery habitat.

Until recently, the dam and surrounding property was privately owned and the owner had no interest in removing the dam. However, the Michigan Department of Natural Resources recently purchased a 517-acre parcel of the property, including the dam, and the property was added to the Pigeon River Country State Forest. The purchase created the opportunity for dam removal.

Many local groups collaborated to accomplish the long anticipated task of Saunders Dam removal. The Service National Fish Passage Program and Partners for Fish and Wildlife Program provided the majority of the funding for the dam removal. The Service partnered with Huron Pines, Michigan Department of Natural Resources and the Upper Black River Watershed Council, along with numerous local businesses and private donors to remove the dam and open up fish passage to 10 miles of headwater habitat.

The Black River at the former Saunders Dam site after removal. Brook trout now have access to 10 miles of headwater habitat. USFWS

Saunders Dam impounds 12 acres of water on the Black River, one of Michigan's premier trout streams, in Otsego County, MI. The removal process was captured with a time-lapse camera. USFWS

Saunders Dam during its removal. A water control structure was constructed to lower the head in a controlled manner, reducing the amount of sediment. USFWS

LCC Leverages Expertise to Build Communities of Science for Tallgrass Prairie Conservation

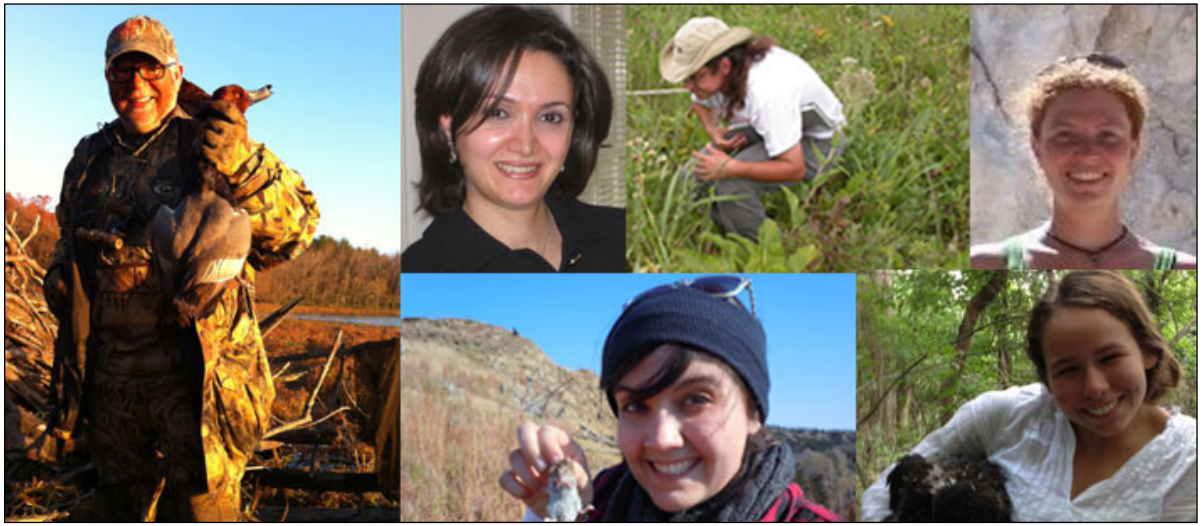
By Ashley Spratt
External Affairs

The Eastern Tallgrass Prairie and Big Rivers Landscape Conservation Cooperative (LCC) welcomes a team of dedicated natural resources professionals to advance and coordinate conservation efforts to restore and connect wildlife with people across the functional working landscape of America's heartland.

"We are proud of the inclusive nature of our LCC community, and are taking full advantage of the expertise embedded within each of our partner organizations to continue to build a more complete community of science dedicated to addressing shared natural resources challenges in the Midwest," said Glen Salmon, LCC Coordinator.

Our LCC community welcomes Illinois Natural History Survey staff members Jamie Ellis, Lama BouFajreldin, Susan McIntyre, and Craig Miller as they take the helm of four Technical Advisory Groups (TAGs) focused on the following focal areas: prairie restoration; river restoration; agroecology; and urban watersheds. Using a structured decision making approach, TAG coordinators will work alongside nearly 300 members of the TAGs from federal, state, NGO, and academic institutions to identify limiting factors that impede successful conservation decision making as a precursor to developing business plans bridging research and management for each of these four focal areas.

"The LCC creates a forum where conservation practitioners can build upon each other's capacities to accomplish goals over broad landscapes and across jurisdictional boundaries that would never be achievable by a few organizations working on their own. The Illinois Natural History Survey is excited to be a partner in this endeavor," said Brian Anderson, Director of the Illinois Natural History Survey.



Left: Craig Miller; Top Row: Lama BouFajreldin, Jamie Ellis, Susan McIntyre; Bottom Row: Kristin Shaw, Megan Cross. USFWS

The LCC also welcomes graduate students Kristin Shaw from Indiana University and Megan Cross from the University of Minnesota. These graduate students will be working within the LCC community to support human dimensions research focusing on agriculture, land use and urban planning.

Jamie Ellis (INHS) – Prairie Restoration TAG Coordinator

James (Jamie) Ellis is a botanist who works as the Vegetation Survey Coordinator for the Critical Trends Assessment Program at the Illinois Natural History. A native of rural west-central Illinois, Jamie earned a B.S. in Ecology, Ethology, and Evolution from the University of Illinois and then traveled north to earn a M.S. in Natural Resource Ecology and Management from the University of Michigan. He is responsible for coordination of data collection at hundreds of plots in forest, wetland, and grassland habitats across Illinois. Jamie's interest in prairie ecology, restoration, and management comes from his direct observations of the needs and challenges of landscape-scale conservation in his travels across the prairie state over the past 15 field seasons. Jamie also volunteers his time with local conservation organizations including Grand Prairie Friends and the Urbana Park District.

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Lama BouFajreldin (INHS) – River Restoration TAG Coordinator

Lama BouFajreldin is an Associate Research Scientist at the Human Dimensions Research Program with the Illinois Natural History Survey. Lama has a Ph.D. in Natural Resources and Environmental Sciences from the University of Illinois at Urbana-Champaign. She also holds a B.S. and M.S. in Environmental Health from the American University of Beirut, Lebanon. Lama's research interests relate to human dimensions of watershed management and aquatic invasive species.

Susan McIntyre (INHS) – Agroecology TAG Coordinator

Susan McIntyre works as a Wetland Plant Ecologist at the Illinois Natural History Survey. She earned a B.S. in Zoology, a B.A. Psychology and a Master of Natural Resources in Policy and Management from North Carolina State University. She has worked with a variety of agencies, including local NRCS and Soil and Water Conservation District offices, North Carolina State Parks, North Carolina Extension Forestry, Wisconsin Department of Natural Resources, U.S. Army Corps of Engineers, and the Department of the Army. Her primary interests are habitat degradation and restoration within urban and agricultural landscapes and their provision of ecosystem services, particularly for wildlife and water quality. She is particularly interested in methods for improving the ecological relationship of urban and agricultural areas with their adjacent natural communities. Some of her past research has focused on private landowner incentives for conservation through USDA programs, and she views outreach to landowners as a critical component to successful conservation.

Craig Miller (INHS) – Urban Watersheds TAG Coordinator

Craig Miller received his doctoral degree in Parks and Recreation Management from Pennsylvania State University specializing in the human dimensions of wildlife management. He holds doctoral minors in statistics, wildlife ecology, and forest resources. Craig has conducted over 100 mail, internet, telephone, and on-site surveys in 16 states for state and federal agencies. He has administered over $4 million in grant funds, authored more than 50 peer-reviewed journal and over 80 technical reports. His work has included studies of agriculture producers' involvement and support for conservation programs, public knowledge of wetlands, Gulf coast erosion and hypoxia, attitudes toward groundwater quality, and perceptions of urban wildlife. He has served on the faculty at the University of Idaho, Louisiana State University, the University of Georgia and currently is adjunct Associate Professor with the University of Illinois. Craig leads the Human Dimensions Program at the Illinois Natural History Survey.

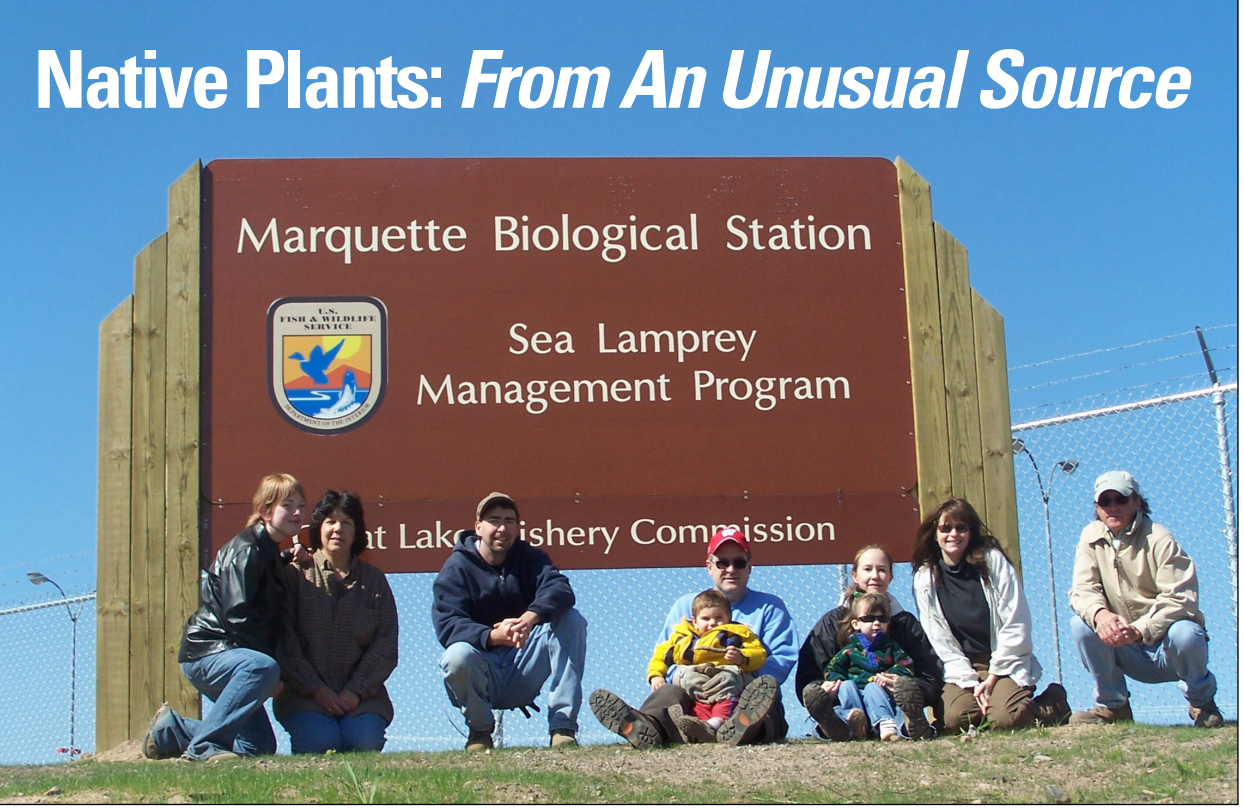
Megan Cross - USFWS Pathways Program

Megan Cross is a current M.S. student in the Natural Resources Science and Management Program at the University of Minnesota, specializing in economics, policy, management and society. Megan received her B.A. in Comparative Cultures and Politics and B.S. in Fisheries and Wildlife Biology from Michigan State University (MSU). She built upon her coursework by spending two years working for the MSU Extension Director's office, furthering her training in science-related outreach, and completing an internship at Ducks Unlimited in their Governmental Affairs Office in Washington, D.C., gaining exposure to the policies and legislation that impact wetlands, water quality and waterfowl breeding areas. She also spent a summer studying sustainable agriculture at EARTH University in Guácimo, Costa Rica. Megan has worked for the Service since April 2012. She worked as a Student Career Experience Program biological science technician for the Ecological Services division of the East Lansing Field Office before moving to Minneapolis, where she has started work with the Landscape Conservation Cooperatives (LCC), focusing on Gulf hypoxia and private landowner motivations.

Kristin Shaw - Conservation Specialist, SPEA Service Corps Fellow

Kristin Shaw earned her B.S. in Biology and Political Science with minors in Sustainability Studies and Religion from Morningside College, Sioux City, Iowa, in May 2013. Currently she is a candidate at Indiana University School of Public and Environmental Affairs for an M.S. in Environmental Science and M.A. in Public Affairs, with a concentration in environmental management. Kristin brings passion for the environment and a willingness to learn to the LCC community. During her undergraduate career, Kristin co-founded an environmental student group with a mission to promote environmental and sustainability awareness on campus as well as in the Sioux-land community while working with groups like the Northwest Iowa Sierra Club Group, Loess Hills Audubon Society, and Morningside College's Sustainability Committee. She has worked with Woodbury County Conservation Board as a volunteer, Naturalist/Habitat Intern, and an Outdoor Skills Intern at Dorothy Pecaut Nature Center. Her work with the LCCs will focus on urban watershed management.

Native Plants: *From An Unusual Source*



The planting crew in spring of 2006 (from left) Mandy Henson, Mary Henson, Curt Sheffield, Bob Kahl, Walter Kahl, Shawn Nowicki, Melody Nowicki, Cheryl Kaye, and Joe Genovese. Christie Deloria, USFWS

By Christie Deloria
East Lansing Ecological Services Field Office

After more than seven years of patience and nurturing, native plants have taken hold at the Marquette Biological Station, in the Upper Peninsula of Michigan. The station, whose main mission is to control invasive Sea Lampreys in the Great Lakes, is part of the U.S. Fish and Wildlife Service's Fisheries Program.

In the spring of 2006, when the station moved to a new facility, staff, family, and friends came out to volunteer for a weekend and planted native seeds at the office. Native plant gardens are making a comeback across the U.S. as their benefits are becoming more widely known by the public. Some of these benefits include saving water and improved water filtration, low lawn maintenance, improved habitat for native birds and butterflies, natural plant defenses which reduce use of pesticides and an overall improvement in the surrounding ecology.

The results of the station's effort to reintroduce native habitat are finally being seen by the station's staff, volunteers and visitors. Christie Deloria biologist with the Service noted "The native plants like big bluestem and black-eyed susan grow extensive root systems first. So, you don't notice flowers or robust stems in the first few years."

With permission from the landlord, four areas surrounding the station were planted with native plant seed and plugs. The goals behind the planting were to highlight the potential use of native species in landscaping, to minimize mowing and water use, and provide small habitat patches for birds and butterflies. It seems to be meeting all of those goals. Although the site requires less maintenance than a traditional lawn, it still requires some attention.

The garden hosts a plethora of native species including big bluestem grass. Bob Kahl collects seed from the mature grass at Marquette Biological Station. Christie Deloria, USFWS

Bob Kahl, retired sea lamprey biologist and volunteer extraordinaire, has dedicated many hours of time tending to the native plant garden, weeding, planting, and helping these plants to grow. He's planted nearly 500 plant plugs and pulled 20-plus bags of non-native species from the four areas. This fall, he has also been out collecting seed to transfer and use at other sites.

Improving and benefiting native wildlife and habitat is one of many shared priorities identified by the agencies involved with the Landscape Conservation Cooperatives, the Service being one of them. The station's transition to native prairie plants fits in with this priority to address landscape-level stressors and issues, and is now benefitting the local ecology.

The Marquette Biological Station's native plant garden is a partnership effort among the U.S. Fish and Wildlife Service's Sea Lamprey and Ecological Services Programs, Hiawatha National Forest, Marquette County Conservation District, Northern Michigan University students and various volunteers.

Three Midwest Species Receive Endangered Species Act Protection

By Georgia Parham
External Affairs

In early September the Service designated the grotto sculpin, a small, cave-dwelling fish found only in Perry County, Missouri, as endangered. The Service first identified the grotto sculpin as a candidate for protection in 2002, due to a decline in water quality in the cave systems inhabited by the sculpin. Biologists have documented two mass die-offs in the cave systems in the past decade due to pollution at a single source entering groundwater.

The rabbitsfoot is one of two Midwest freshwater mussels recently added to the list of endangered and threatened species. Also added was the Neosho mucket. Georgia Parham, USFWS

Grotto sculpins, which live only in Perry County, Missouri, are endangered due to threats to their cave stream habitat. B. Pobst, USFWS

The area where the grotto sculpin lives is characterized by hundreds of caves and thousands of sinkholes, where pollutants and other substances can rapidly find their way to underground waterways. The main threat to the grotto sculpin is water quality degradation and siltation in its habitat. Water quality is affected by contaminated agricultural runoff, sinkhole dumps, industrialization, and vertical drains installed without appropriate best management practices.

Although some lands had been proposed as critical habitat for the grotto sculpin, no areas were designated, based on a comprehensive conservation plan developed by Perry County officials and other partners. The Service, citizens and government of Perry County, the Missouri Department of Conservation, and the Missouri Department of Natural Resources developed the Perry County Community Conservation Plan that addresses specific threats to the grotto sculpin and its habitat.

The Columbia, Missouri, Ecological Services Field Office worked closely with partners to develop the plan. "The residents of Perry County are to be commended for their forward-looking approach to addressing water quality issues in their county," said Amy Salveter, project leader for ecological services in Columbia. "The partners have developed a plan that will not only conserve the habitat of the grotto sculpin, but will conserve and safeguard the water that supports the entire community."

Also in September, two freshwater mussels and a small cave fish were given Endangered Species Act protection. The Neosho mucket, found in Missouri, Arkansas, Kansas and Oklahoma, is listed as endangered, while the rabbitsfoot is listed as threatened. The rabbitsfoot is found in four Midwest Region states: Illinois, Indiana, Missouri and Ohio.

Threats to both the rabbitsfoot and Neosho mucket include loss and degradation of stream and river habitat due to impoundments, channelization, chemical contaminants, mining and sedimentation. The Service estimates that the Neosho mucket is gone from about 62 percent of its historic range, while the rabbitsfoot occupies only 36 percent of its former range.

More information on the rabbitsfoot, Neosho mucket, grotto sculpin and the Perry County Community conservation Plan can be found at www.fws.gov/midwest/endangered